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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/065,745

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Nenad Rijavec

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11703 BOWMAN GREEN DR.

SUITE 100

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EXAMINER

HUNTSINGER, PETER K

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/065,745	Applicant(s) RIJAVEC, NENAD	
	Examiner Peter K. Huntsinger	Art Unit 2625	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 February 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 2/20/07 have been fully considered but they are not persuasive.

The applicant argues on pages 6-8 of the response in essence that:

Adding/removing network nodes to a network does not change other network nodes and therefore does not require changing the sequencer.

- a. The limitation of claims 10 and 11 recite "said sequencer remaining unchanged by additions and removals of connected and disconnected said raster image processors." Applicant's argument that the sequencer does not require changing does not equate to the sequencer remaining unchanged. At the very least, the sequencer will become changed by the number of raster image processors connected. Further, adding/removing nodes to a network does change other nodes in that connections are now available to the nodes.

Therefore, the examiner maintains that "said sequencer remaining unchanged by additions and removals of connected and disconnected said raster image processors" is not supported by the applicant's original disclosure, however the applicant's argument that "disconnecting raster image processors to the sequencer" is inherent is persuasive.

The applicant argues on pages 9-12 of the response in essence that:

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Barry '943 does not teach directly connecting the sequencer with the input ports of the raster image processors.

b. Barry '943 discloses a plurality of raster image processors (Rip engines 150, 152, and 154 of Fig. 1b, col. 1, lines 41-50) and a sequencer (instruction operator for job file 114 of Fig. 1a). The instruction operator is considered to be directly connected to the raster image processors because the output provides a physical transmission line to the inputs of the raster image processors. Whether, the transmission line is routed through the distributor, the wiring still provides a physical path to the raster image processors. In the same way, a computer can be considered directly connected to the internet although it may be routed through a modem or a device may be directly connected to a power source even if the power is routed through transistors. Further, since it has been held that omission of an element and its function in a combination where the remaining elements perform the same functions as before involves only routine skill in the art and therefore would have been obvious to one having ordinary skill in the art at the time of the invention.

The applicant argues on pages 13-14 of the response in essence that:

Fujii '390 does not teach multiple print head drivers between a print server and a printer.

c. Barry '943 discloses a pipeline of elements connected between a printer server (control PC 1020 of Fig. 10, col. 15, lines 10-28) and a printer (printer 1026 of Fig. 10, col. 15, lines 10-28). Fujii '390 discloses a plurality of print head

drivers (head drivers 34 of Fig. 3, col. 6, lines 60-65). Barry '943 and Fujii '390 are combinable because they are from the same field of printing systems. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to process rasterized data for print head drivers. The motivation for doing so would have been allow driving a plurality of ink jet nozzles to form an image, each individual print head driver corresponding to a separate color of the printer.

The applicant argues on pages 14-15 of the response in essence that:
Venkatesawar '016 does not teach communicating queued packaged print stream data portions directly over a network.

d. Venkatesawar '016 discloses queuing packaged print stream data portions; and communicating queued packaged print stream data portions directly to a plurality of raster image processors directly over a network. (col. 2, lines 21-28). The network, which may constitute any connection to the raster image processors, can be shown in Fig. 2a as the arrow leading from the master processor to the parallel processors.

The applicant argues on pages 16-17 of the response in essence that:
Barry '943 does not disclose wherein said raster image processors may be connected and disconnected to said sequencer output port, said sequencer remaining unchanged by additions and removals of connected and disconnected said raster image processors.

e. Barry '943 discloses a plurality of raster image processors (Rip engines 150, 152, and 154 of Fig. 1b, col. 1, lines 41-50). Barry '943 discloses an nth Rip engine 154 below the second Rip engine 152 to indicate that the number of Rip engines is not specific and can be customized (col. 5, lines 38-45). Therefore, the number of Rip engines raster image processors may be connected and disconnected to said sequencer output port.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 10 and 11 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Claims 10 and 11 include the limitation "said sequencer remaining unchanged by additions and removals of connected and disconnected said raster image processors". This limitation is not described in the applicant's specification.

Claim Rejections - 35 USC § 101

4. 35 U.S.C. 101 reads as follows:

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Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claim 9 is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Claim 9 is directed to a computer program. For claim 9 to be statutory, the applicant must state "A computer readable medium storing a computer program" (or equivalent) not a computer program comprising a computer readable medium.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Barry '943 and Fujii '390.

Referring to claim 1, Barry '943 discloses an apparatus comprising: a pipeline of elements processing print control data and having: a plurality of raster image processors, each of which has an input port receiving parsed page data (Rip engines 150, 152, and 154 of Fig. 1b, col. 1, lines 41-50); and a sequencer (instruction operator for job file 114 of Fig. 1a) which has an output port networked and communicating with the input ports of said plurality of raster image processors (col. 4, lines 34-40) and an input port receiving a print data stream (col. 3, lines 19-22), said sequencer monitoring

data flows among the pipelined elements and parsing a print data stream into local data portions related to individual pages and global state data portions related to characteristics shared across a plurality of pages (col. 4, lines 52-62), said sequencer packaging together parsed page local and global state data portions (col. 4, lines 34-40); said raster image processors processing in parallel packaged parsed page data related to a plurality of pages (col. 2, lines 9-20).

The instruction operator is considered to be directly connected to the raster image processors because the output provides a physical transmission line to the inputs of the raster image processors. Whether, the transmission line is routed through the distributor, the wiring still provides a physical path to the raster image processors. In the same way, a computer can be considered directly connected to the internet although it may be routed through a modem or a device may be directly connected to a power source even if the power is routed through transistors. Further, since it has been held that omission of an element and its function in a combination where the remaining elements perform the same functions as before involves only routine skill in the art and therefore would have been obvious to one having ordinary skill in the art at the time of the invention.

Fujii '390 discloses a plurality of print head drivers, each of which controls the application of colorant to a sheet and has an input port receiving data signals; a rasterizer with an output port communicating with the input ports of said plurality of print head driver; and generating data signals to be communicated to said print head drivers (col. 6, lines 60-65). Barry '943 and Fujii '390 are combinable because they are from

the same field of printing systems. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to process rasterized data for print head drivers. The motivation for doing so would have been allow driving a plurality of ink jet nozzles to form an image. Each individual print head driver corresponds to a separate color of the printer. Therefore, it would have been obvious to combine Fujii '390 with Barry '943 to obtain the invention as specified in claim 1.

Referring to claim 3, Fujii '390 discloses an apparatus according to claim 1 wherein each of said raster image processors converts data from a form communicated as a print data stream to a form to be communicated as data signals to a print head driver (col. 6, lines 60-65).

7. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Barry '943 and Fujii '390 as applied to claim 1 above, and further in view of Venkateswar '016.

Referring to claim 2, Barry '943 and Fujii '390 discloses rasterizing images and generating data signals communicated to a print head driver, but does not disclose expressly a raster queue. Venkateswar '016 discloses queuing packaged individual page data to be communicated to said raster image processors and further wherein individual ones of said raster image processors draw from said queued data as processing of data related to an individual page is completed (col. 2, lines 21-28). Barry '943, Fujii '390, and Venkateswar '016 are combinable because they are from the same field of printing systems. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to queue data designated for a plurality of rasterizers.

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The motivation for doing so would have been to increase the speed of image rasterization by preparing images designated for rasterization before the rasterizer requests new data. Therefore, it would have been obvious to combine Venkateswar '016 with Barry '943 and Fujii '390 to obtain the invention as specified in claim 2.

8. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Barry '943 and Fujii '390 as applied to claim 3 above, and further in view of Hohensee '460.

Referring to claim 4, Barry '943 discloses raster image processors but does not disclose expressly converting into a variable number of portions depending on whether a page is to be blank, single colored, or multiple colored. Hohensee '460 discloses each of said raster image processors converts data from a form communicated as a print data stream into a variable number of portions depending upon whether an individual page is to be blank or to be printed with a single color or to be printed with multiple colors (col. 4, lines 53-60). Barry '943 and Hohensee '460 are combinable because they are from the same field of printing systems. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to utilize a rasterizer to convert into a variable number of portions depending on whether a page is to be blank, single colored, or multiple colored. The motivation for doing so would have been to produce a separate bitmap for each color of ink required to print the page. Therefore, it would have been obvious to combine Hohensee '460 with Barry '943 to obtain the invention as specified in claim 4.

9. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Barry '943, Fujii '390, and Hohensee '460.

Referring to claim 5, Barry '943 discloses an apparatus comprising: a pipeline of elements connected between a printer server and a printer and processing print control data from said print server, and said pipeline of elements having: a plurality of raster image processors, each of which has an input port receiving parsed page data (Rip engines 150, 152, and 154 of Fig. 1b, col. 1, lines 41-50); and a sequencer (instruction operator for job file 114 of Fig. 1a) which has an output port networked and communicating with the input ports of said plurality of raster image processors (col. 4, lines 34-40) and an input port receiving a print data stream (col. 3, lines 19-22), said sequencer monitoring data flows among the pipelined elements and parsing a print data stream into local data portions related to individual pages and global state data portions related to characteristics shared across a plurality of pages (col. 4, lines 52-62), said sequencer packaging together parsed page local and global state data portions (col. 4, lines 34-40); said raster image processors processing in parallel packaged parsed page data related to a plurality of pages (col. 2, lines 9-20). Barry '943 does not disclose expressly a plurality of head drivers. Fujii '390 discloses a plurality of print head drivers, each of which controls the application of colorant to a sheet and has an input port receiving data signals; a rasterizer with an output port communicating with the input ports of said plurality of print head driver; and generating data signals to be communicated to said print head drivers (col. 6, lines 60-65). Barry '943 and Fujii '390 are combinable because they are from the same field of printing systems. At the time of

the invention, it would have been obvious to a person of ordinary skill in the art to process rasterized data for print head drivers. The motivation for doing so would have been allow driving a plurality of ink jet nozzles to form an image. Each individual print head driver corresponds to a separate color of the printer. Barry '943 does not disclose expressly converting into a variable number of portions depending on whether a page is to be blank, single colored, or multiple colored. Hohensee '460 discloses each of said raster image processors converts data from a form communicated as a print data stream into a variable number of portions depending upon whether an individual page is to be blank or be printed with a single color or to be printed with multiple colors (col. 4, lines 53-60). Barry '943 and Hohensee '460 are combinable because they are from the same field of printing systems. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to utilize a rasterizer to convert into a variable number of portions depending on whether a page is to be blank, single colored, or multiple colored. The motivation for doing so would have been to produce a separate bitmap for each color of ink required to print the page. Therefore, it would have been obvious to combine Hohensee '460 with Barry '943 and Fujii '390 to obtain the invention as specified in claim 5.

10. Claims 6-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Barry '943, Fujii '390, and Venkateswar '016.

Referring to claims 6 and 9, Barry '943 discloses a method comprising the steps of: receiving a print data stream from a print server and parsing the stream into local

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(col. 4, lines 34-38) and global portions (col. 4, lines 26-30); packaging together parsed local and global print stream data portions (col. 5, lines 8-13). Barry '943 does not disclose expressly a raster queue. Venkateswar '016 discloses queuing packaged print stream data portions; and communicating queued packaged print stream data portions directly to a plurality of raster image processors (col. 2, lines 21-28). Barry '943 and Venkateswar '016 are combinable because they are from the same field of printing systems. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to queue data designated for a plurality of rasterizers. The motivation for doing so would have been to increase the speed of image rasterization by preparing images designated for rasterization before the rasterizer requests new data. Barry '943 discloses processing a plurality of communicated packaged print stream data portions in parallel but does not disclose expressly a plurality of head drivers. Fujii '390 discloses generating print head driving data signals; and communicating the generated print head driving data signals to a printer and to the print heads of said printer (col. 6, lines 60-65). Barry '943 and Fujii '390 are combinable because they are from the same field of printing systems. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to process rasterized data for print head drivers. The motivation for doing so would have been allow driving a plurality of ink jet nozzles to form an image. Each individual print head driver corresponds to a separate color of the printer. Therefore, it would have been obvious to combine Fujii '390 with Barry '943 and Venkateswar '016 to obtain the invention as specified in claims 6 and 9.

Referring to claim 7, Barry '943 discloses a method according to claim 6 wherein said step of packaging print stream data portions comprises packaging portions applicable to individual pages (col. 7, lines 34-36).

Referring to claim 8, Barry '943 discloses a method according to claim 6 wherein said step of processing comprises generating bit map data signals (col. 10, lines 59-60).

11. Claims 10 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Barry '943 and Fujii '390 as applied to claims 1 and 5 above, and in further view of Venkateswar '016.

Referring to claims 10 and 11, Barry '943 discloses the sequencer and raster image processors but does not disclose expressly the sequencer being connected to the raster image processors. Venkateswar '016 discloses a sequencer (main processor 52) being connected to raster image processors (parallel processors 54) (Fig. 2a).

Barry '943 and Venkateswar '016 are combinable because they are from the same field of printing systems. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to connect the master processor with the parallel processors.

The motivation for doing so would have been to eliminate the need for a separate component to separate and distribute data. Barry '943 further discloses wherein said raster image processors may be connected and disconnected, said sequencer remaining unchanged by additions and removals of connected and disconnected said raster image processors (col. 5, lines 38-45). Therefore, it would have been obvious to

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combine Venkateswar '016 with Barry '943 to obtain the invention as specified in claims 10 and 11.

Conclusion

12. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.


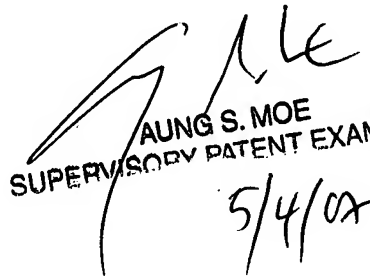
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Peter K. Huntsinger whose telephone number is (571)272-7435. The examiner can normally be reached on Monday - Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Moe Aung can be reached on (571)272-7314. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

PKH

A handwritten signature in black ink, appearing to be 'PKH' followed by a stylized flourish.A handwritten signature in black ink, appearing to be 'AUNG S. MOE' followed by a stylized flourish.

AUNG S. MOE
SUPERVISORY PATENT EXAMINER
5/4/02